Deep Learning –HW#5

About the Assignment

The main aim of the assignment is to gain some fundamental knowledge about deep learning on Python. The gains of this homework are:

- Able to design a LSTM model
- Able to setting the parameter of a LSTM model
- Able to use to Torch library
- Able to analyze performance of a model
- Able to save and load a LSTM model

Tasks:

1- Implement an LSTM model by using Pytorch to classify the spam and normal emails. Convert email text to numeric values.
2- Train this model and evaluate the model on test images.
3- Save model with defined by using accuracy of validation data
4- Load model and evaluate model with test samples.
5- Show the following results of your model.
   - confusion matrix,
   - F1-score,
   - accuracy.

The grading of homework will be given by taking the 30% of accuracy and 70% of code. Therefore, it is encouraged to boost the performance of your model with a well-designed LSTM architecture and setting a good combination of hyper-parameters.

The you can play with following parameter to get higher scores:

- The number of layers
- Learning Rate, Epoch, Batch size
- Activation functions and other details

Emails dataset

https://www.kaggle.com/datasets/jackksoncsie/spam-email-dataset

Send .ipynb, and pdf file as zip.

Send your code as zip. Yourname-surname-hw#.zip